

Applicant: STARZ, et al.
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REMARKS

The present application had claims 1-5, 9-13 and 15-19 pending. Applicants have herein above cancelled claim 13 and amended claims 1 and 19. Claim 1 was amended to incorporate the limitation of dependent claim 13, which was then cancelled, and to clarify the elements of the claimed ink composition. Claim 19 was amended to change its dependency from claim 13 to claim 1. Support for the amended claims may be found in numerous places in the subject application, including the originally-filed claims and the examples. Specific support may also be found on page 4, line 11 (the claimed ink is a water-based ink); page 5, lines 19-23 (the claimed ink contains substantially water as the solvent); page 5, line 27 (the main component of the ink is water); page 6, line 8 (the organic solvent is a co-solvent); and page 6, lines 17-20 (the ionomer may be in aqueous solution). No new matter has been added by the amendments. Claims 1-5, 9-12 and 15-19 are now pending.

In the Office Action dated September 26, 2006, the Examiner rejected the pending claims as unpatentable over Fischer (DE 196 11 510) in view Goller *et al.* (US Patent 4,185,131).¹ As part of this rejection, the Examiner maintains that the ionomer solution of the Fischer reference is in aqueous form despite having a solvent that is 90% isopropanol and only 10% water.

¹ Claim 8 was also rejected as unpatentable based on the Fischer and Goller references and further in view of Ramunni *et al.* (U.S. Patent 6,022,634). Applicants assume this rejection was made in error since claim 8 has been previously cancelled and is no longer pending.

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Applicants respectfully disagree with the Examiner's position. It is Applicants' understanding that the term "aqueous" means "of, relating to, or resembling water" or "made from, with, or by water" (Webster's English Dictionary, on-line). The Fischer reference does not describe an ionomer solution which relates to or resembles water. Rather, the ionomer solution of Fischer is alcohol based.

Moreover, the Fischer reference does not describe an ink in which the alcohol in the ink is limited to a concentration between 1 and 50 wt. % based on the weight of the water, as required by claim 1. The inks of the present invention require their solvents to be predominately water (see page 5, lines 19-27 of the specification and amended claim 1). The ink of Fischer does not meet this limitation.

Claim 1 requires that the linear dialcohol be present in the ink in a concentration between 1 and 50 wt.%, with respect to the weight of water. For example, with the dialcohol at the claim limit of 50 wt. % based on the weight of the water, the inventive inks would have a minimum water content of 66.6% and a maximum alcohol content of 33.3%. The ink of the Fischer reference, on the other hand, has a water content of 27.7% (see page 3, lines 4-5) -- substantially smaller than the 66.6% of the present invention. Accordingly, the Fischer reference does not disclose or suggest the claim limitation restricting the dialcohol to 1-50% based on the weight of the water -- a limitation present in the originally-filed claims.

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Nevertheless, in order to advance prosecution of the present applications Applicants have herein amended claim 1 to further distinguish the Fischer reference. Claim 1 now indicates that the ink is water-based – a characteristic missing from the ink of the Fischer reference. Neither the Fischer reference nor the Goller reference describes water based inks.

Additionally, claim 1 also requires that the ionomer present in the claimed ink be in the form of an “aqueous solution.” It is clear in chemical terminology that the term “aqueous solution” means that the solvent of the solution is water or predominantly water. The ionomer solution of Fischer is a 90 parts isopropanol and 10 parts water solution. Such a solution fails to meet the elements of amended claim 1.

Moreover, the use of an ionomer in aqueous solution leads to an ink whose main solvent component is water (see page 5, lines 9 and 27-30). This limitation has also been added to claim 1 by requiring that the solvent of the claimed ink be substantially water. Such inks have the following advantages (among others) versus the inks of the prior art: surprisingly good adhesion to the polymer membrane (page 5, line 20); very good screen life (p 5, line 23); good electrical performance (p 5, line 24); and high flash point (higher than 100 °C, i.e. low inflammability, no ignition).

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The ionomer solution used by Fischer contains 90 parts of isopropanol and 10 parts of water. It is based substantially on isopropanol, not on water, and thus is not an aqueous solution. Isopropanol is very low boiling (boiling point 82.2 °C) and readily ignites due to its low flash point of 12 °C. Because the ionomer solutions of Fischer contain a large amount of isopropanol, the inks made with these ionomer solutions also contain a large amount of isopropanol (e.g., 27.81 wt.% in example 1 of Fischer), and thus do not meet the other limitations of claim 1 (i.e., the solvent of the Fischer ink is not substantially water and the alcohol present in the Fischer ink is not at the concentrations required by claim 1 -- as well as not being a dialcohol). Therefore the Fischer inks do not teach or suggest the limitations of amended claim 1, and suffer from the same disadvantages of the prior art (that is, short screen life, high inflammability, easy ignition, etc.).

The shortcomings of the Fischer reference are not solved by combining it with the Goller reference. Like Fischer, the Goller reference also fails to teach the limitations added to claim 1; for example, that the ionomer be present in an aqueous solution or that the solvent of the ink be predominately water with a dialcohol being present as a co-solvent at a concentration of 1-50 wt. %, with respect to the weight of the water.

Based on the above remarks, applicants respectfully request reconsideration and withdrawal of the rejections based on the combination of Fischer and Goller. Entry of the present amendment and allowance of the present application are respectfully solicited.

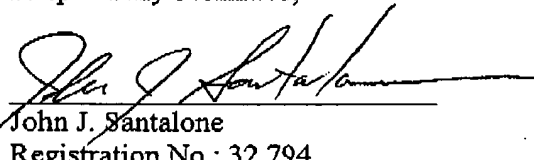
No fee is deemed due with respect to the filing of the present amendment, other than the

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fee for the requested two-month extension of time. If any additional fees are due, or an overpayment has been made, please charge, or credit, our Deposit Account No. 11-0171 for such sum.

If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicants' attorney at the telephone number provided below.

Respectfully submitted,


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